Clean Version of Claims

1. A method of targeted delivery of mammalian stem cells of myeloid origin into a nervous system of a mammal by administering a therapeutically effective amount of mammalian stem cells of myeloid origin into said nervous system of said mammal, whereby

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal, and

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal at said preferred site.

2. The method of Claim 1, wherein said mammalian stem cells of myeloid origin are isolated from at least one of the group of bone marrow, mobilized peripheral blood, umbilical cord blood, or fetal liver tissue from a mammal.

3. The method of Claim 1, wherein administration of said therapeutically effective amount of mammalian stem cells is at least one of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

4. The method of Claim 1, wherein administration of said mammalian stem cells of myeloid origin is a combination of at least two of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

5. The method of Claim 1, wherein said mammalian stem cells of myeloid origin maintain the pluripotential capacity to differentiate into neuronal and glial cells.

6. The method of Claim 1, wherein said mammalian stem cells are transiently or stably genetically engineered by at least one viral vector or non-viral transfection.

7. The method of Claim 1, wherein said mammalian stem cells of myeloid origin deliver viral vectors, other transducing agents, or biological pumps of peptides directly into said nervous system of said mammal.

8. The method of Claim 1, wherein said mammalian stem cells of myeloid origin comprises delivery of cells expressing CD34.

9. The method of Claim 1, wherein said mammalian stem cells of myeloid origin comprises delivery of cells negative for CD34.

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10. A method of modifying neuronal growth of a mammal by administering a therapeutically effective amount of mammalian stem cells of myeloid origin into a nervous system of said mammal, whereby

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal,

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal at said preferred site,

said engrafted mammalian stem cells of myeloid origin differentiate into neuronal and glial cells, and

said neuronal and glial cells replace damaged nervous system tissue.

11. The method of Claim 10, wherein said mammalian stem cells of myeloid origin are isolated from at least one of the group of bone marrow, mobilized peripheral blood, umbilical cord blood, or fetal liver tissue from a mammal.

12. The method of Claim 10, wherein administration of said therapeutically effective amount of mammalian stem cells is at least one of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

13. The method of Claim 10, wherein administration of said therapeutically effective amount of mammalian stem cells is a combination of at least two of the group of intrathecal, intraventricular, intracisternal, intraparenchymal into the brain or spinal cord, or systemic.

14. The method of Claim 10, wherein said mammalian stem cells are transiently or stably genetically engineered by at least one viral vector or non-viral transfection.

15. The method of Claim 10, wherein said mammalian stem cells of myeloid origin deliver viral vectors, other transducing agents, or biological pumps of peptides directly into said nervous system of said mammal.

16. The method of Claim 10, wherein said mammalian stem cells of myeloid origin comprises delivery of cells expressing CD34.

17. The method of Claim 10, wherein said mammalian stem cells of myeloid origin comprises delivery of cells negative for CD34.

18. A method of modifying neuronal growth of a mammal by administering a therapeutically effective amount of mammalian stem cells of myeloid origin into a nervous system of said mammal, wherein said mammalian stem cells are transiently or stably genetically engineered by at least one viral vector or by non-viral transfection, whereby

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal,

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal at said preferred site,

said engrafted mammalian stem cells of myeloid origin differentiate into neuronal and glial cells, and

said neuronal and glial cells replace damaged nervous system tissue.

19. A method of modifying neuronal growth of a mammal by administering a therapeutically effective amount of mammalian stem cells of myeloid origin into a nervous system of said mammal, wherein said stem cells of myeloid origin deliver viral vectors, other transducing agents, or biological pumps of peptides directly into said nervous system of said mammal, whereby

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal,

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal at said preferred site,

said engrafted mammalian stem cells of myeloid origin differentiate into neuronal and glial cells, and

said neuronal and glial cells replace damaged nervous system tissue,

said mammalian stem cells of myeloid origin migrate from an injection site to a preferred site in said nervous system of said mammal,

said mammalian stem cells of myeloid origin engraft into said nervous system of said mammal at said preferred site,

said engrafted mammalian stem cells of myeloid origin differentiate into neuronal and glial cells, and

said neuronal and glial cells replace damaged nervous system tissue.